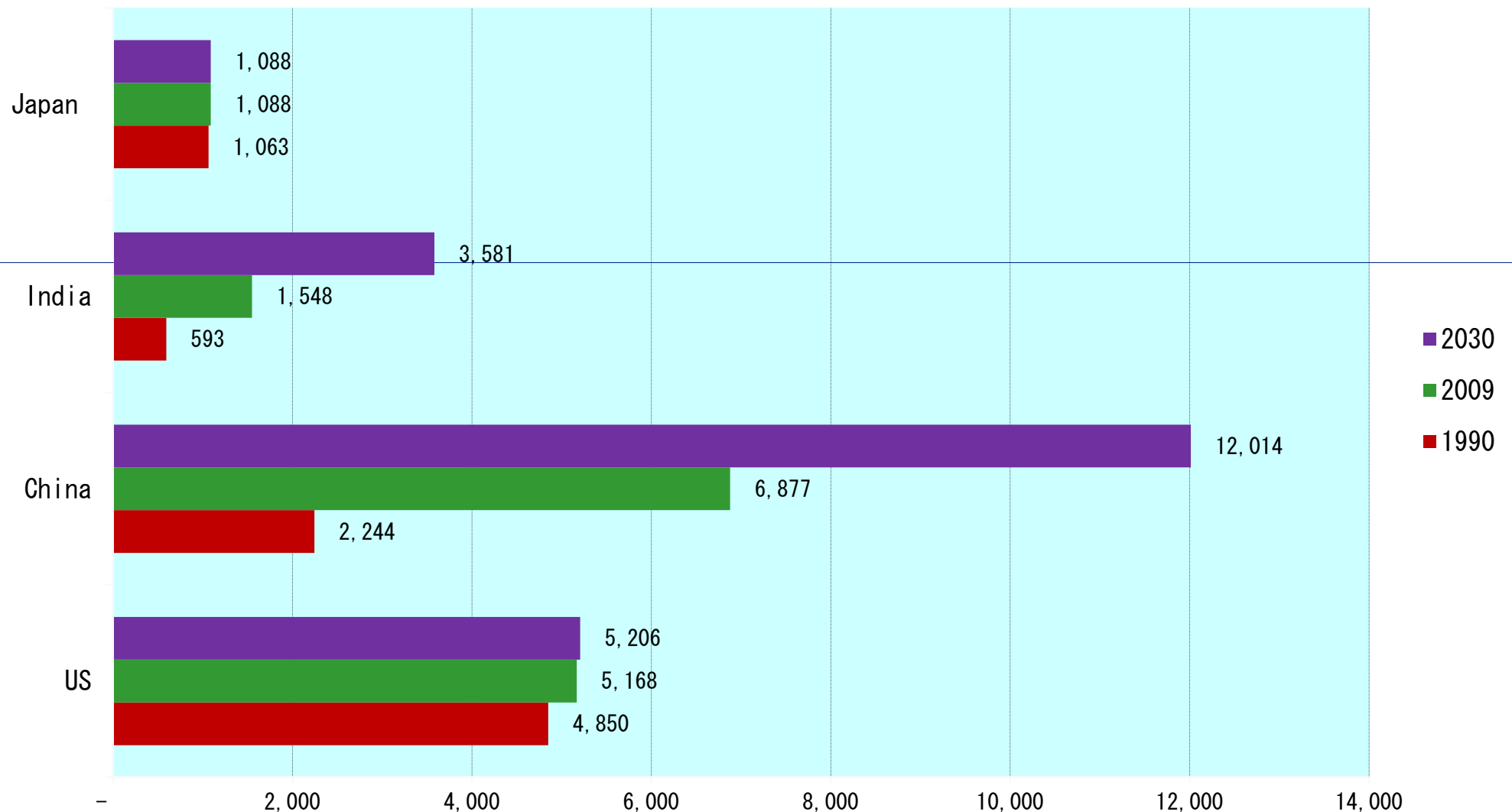


**Low Carbon Growth in Asia - what
actions can be taken by local
governments, business,
international organizations, and
academia?**

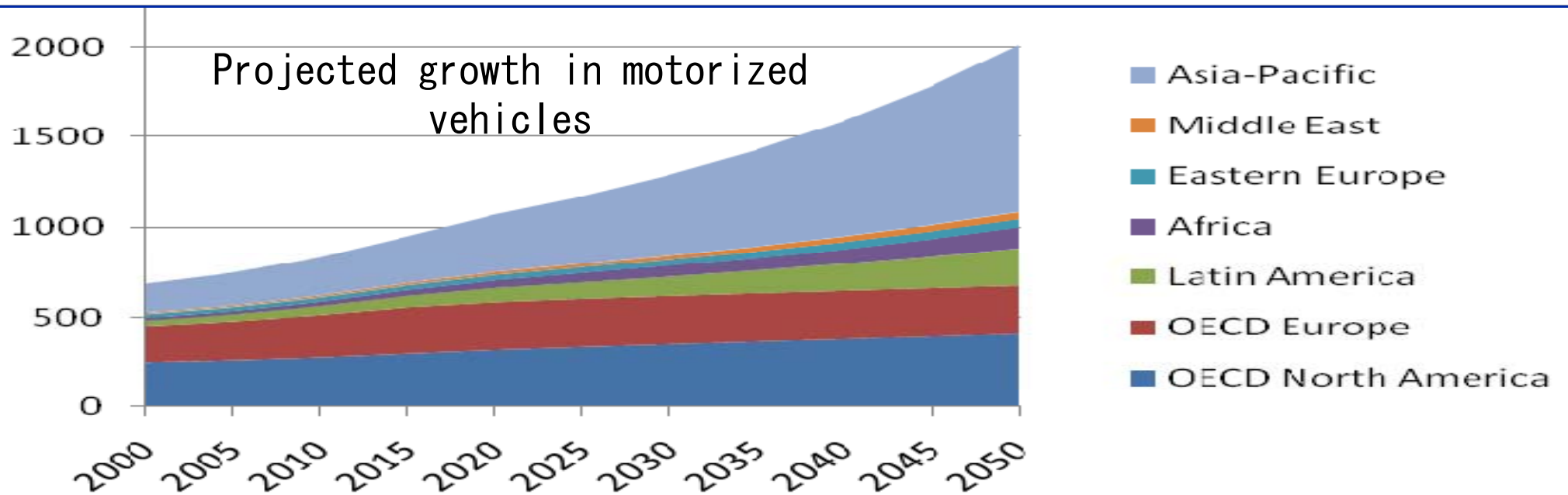
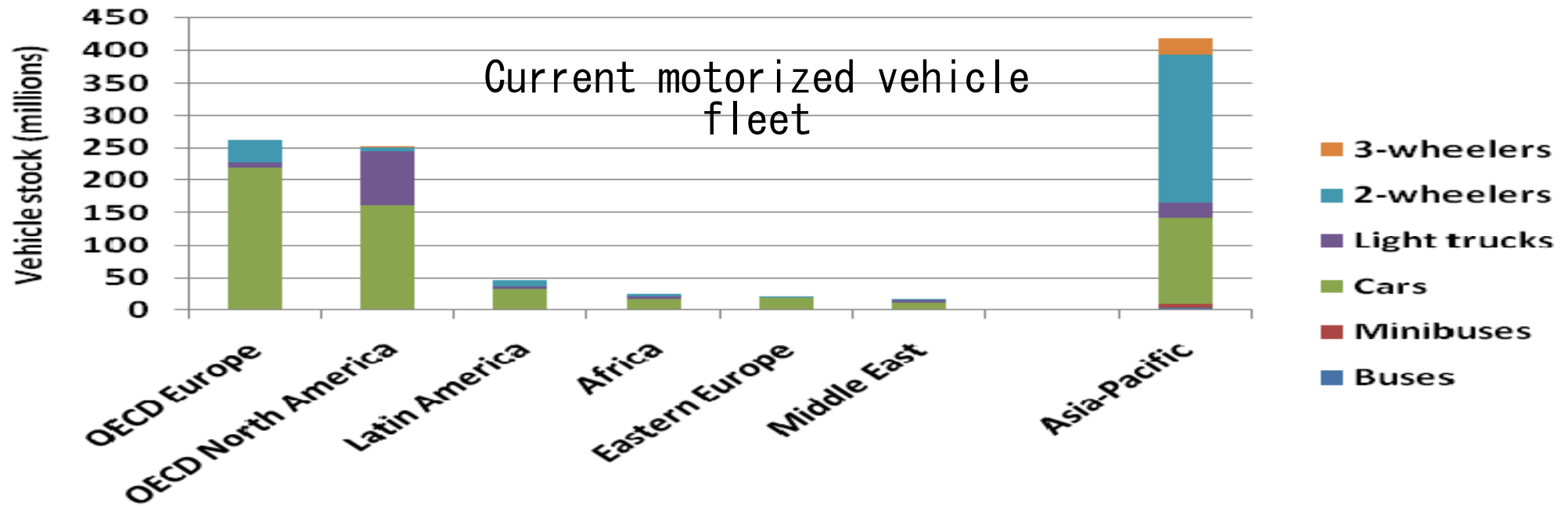
S. Chander
Director General
Regional and Sustainable Development Department
17 May 2013

Energy-related CO₂ Emissions, Selected Countries, million tons



Growth in Motorized Transport

Source: IEA, Mobility Model, 2010



Categories of Pledged GHG Emission Reduction Actions for Selected Asian Countries

Project-level Activities	Sector-level Activities	Economy-wide Targets			
		Intensity Targets (GHG or CO2 / GDP)	Absolute Targets		
			Compared to Base Year	Compared to Business as Usual	Carbon Neutrality
Mongolia	Cambodia	PRC, India	Marshall Islands	Indonesia	Bhutan, Maldives

Vulnerability of Asian & Pacific Countries to Climate Change

- **High Exposure:** drought, flood, tropical storms, sea level rise, loss of snowpack/ glacial storage
- **High Sensitivity:** reliance on natural resources; drought-, flood-prone and coastal agriculture
- **Low Adaptive Capacity:** economic resources, infrastructure, technology, education & skills, health, institutions



5 Climate Threats: Countries at Most Risk

	Drought	Flooding	Storms	Sea Level Rise (1m)	Agriculture
1	Malawi	Bangladesh	Philippines	All low-lying Island states	Sudan
2	Ethiopia	China	Bangladesh	Vietnam	Senegal
3	Zimbabwe	India	Madagascar	Egypt	Zimbabwe
4	India	Cambodia	Vietnam	Tunisia	Mali
5	Mozambique	Mozambique	Moldova	Indonesia	Zambia
6	Niger	Laos	Mongolia	Mauritania	Morocco
7	Mauritania	Pakistan	Haiti	China	Niger
8	Eritrea	Sri Lanka	Samoa	Mexico	India
9	Sudan	Thailand	Tonga	Myanmar	Malawi
10	Chad	Vietnam	China	Bangladesh	Algeria

Source: World Bank (2009). *Convenient Solutions to an Inconvenient Truth: Ecosystem-based Approaches to Climate Change*, Environment Department.

ADB's Response

Preeminence of Addressing Climate Change in Measures to Enhance Sustainability



Promoting transitions to environmentally sustainable infrastructure



Improving natural resources management and maintaining ecosystem integrity



Enhancing environmental governance and management capacities

Climate Change (adaptation and mitigation)

ADB's Climate Change Strategic Priorities

Modalities

Priorities

Finance	Knowledge	Partnerships
Scaling-Up Clean Energy		
Encouraging Sustainable Transport and Urban Development		
Managing Land Use and Forests for Carbon Sequestration		
Promoting Climate-Resilient Development		
Strengthening Policies, Governance and Capacity		

Mitigation Initiatives

□ Clean Energy

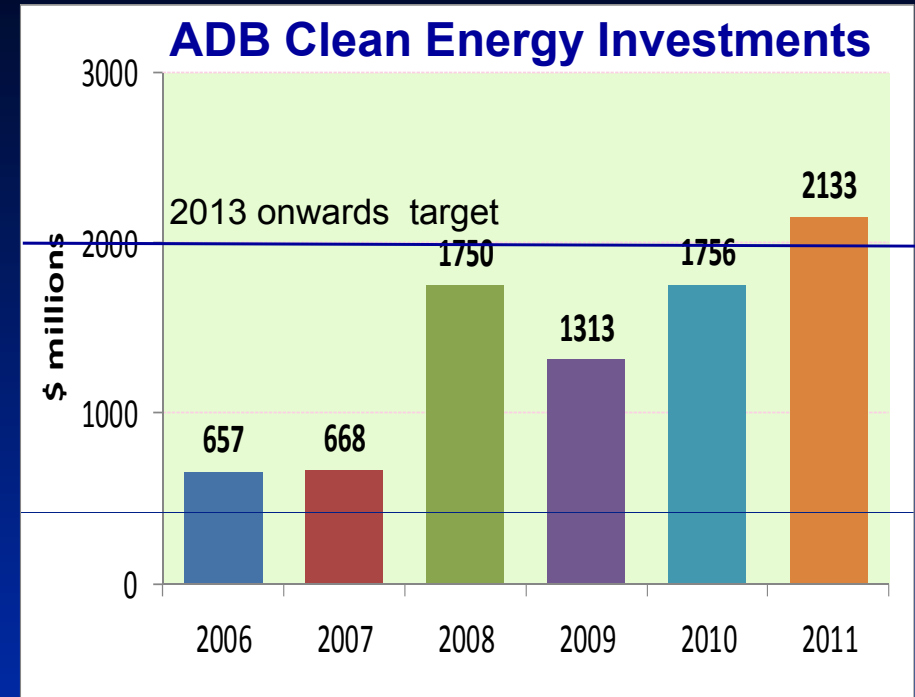
- \$2.4 billion in 2012
- Asia Solar Energy Initiative
- Quantum Leap in Wind
- Energy for All

□ Sustainable Transport and Urban Development

- Sustainable Transport Initiative
- Cities Development Initiative for Asia
- Urban Operational Plan

□ Land Use and Forest Management

- Piloting REDD+/Forest Investments Program: Indonesia, Lao PDR, Mekong region



Example: Asia Solar Energy Initiative

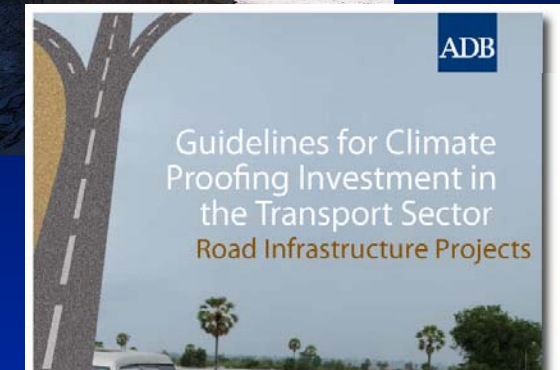
- ❑ **Project identification and development** (target of 3 GW by mid 2013; 600+ MW leveraged to date)
- ❑ **Solar Fund** - deploying grant funds to reduce capex, support FiTs, promote rapid scale up
- ❑ **Asia Solar Energy Forum** - quarterly forums, platform for knowledge sharing across DMCs



Adaptation Initiatives

❑ Mainstreaming climate resilience in core development planning

- Pilot Program on Climate Resilience for Bangladesh, Cambodia, Nepal, Tajikistan and the Pacific



❑ Climate proofing vulnerable projects

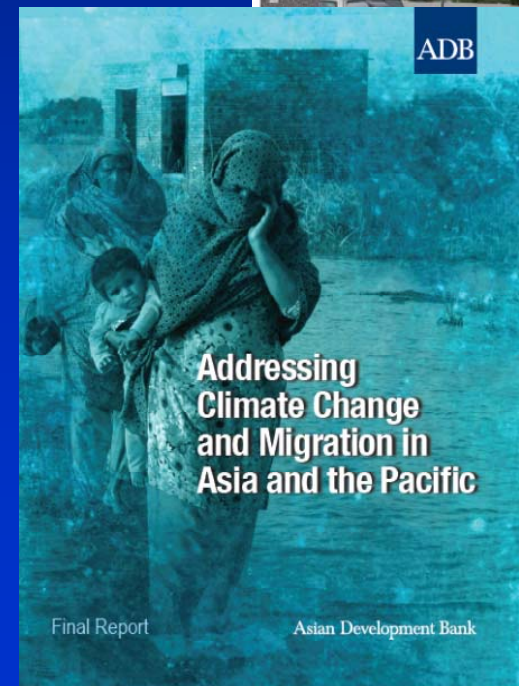
- Roads, ports, water supply

❑ Increasing resilience of vulnerable sectors

- Natural resources, water, energy, transport

❑ Addressing social dimensions

- Migration, gender, health impacts



Mobilizing Climate Change Financing

□ Deploying concessional (grant and non-grant) resources

- Internal funds: Clean Energy Financing Partnership Facility (CEFPPF), Climate Change Fund, others with bilaterals
- External funds: Climate Investment Funds (CIFs), Global Environment Facility (GEF), looking ahead to the Green Climate Fund (GCF)

□ Maximizing market mechanisms

- Carbon Market Program: Technical Support Facility and upfront carbon finance — Asia Pacific Carbon Fund & Future Carbon Fund
- Supporting new market mechanisms, e.g. Domestic emission trading in PRC and Viet Nam, Renewable Energy Credits in India

□ Catalyzing private investment

- Direct project finance (lending, guarantees, syndications) and equity investment
- Public private partnerships: working with client DMCs

Emerging ADB Private Sector Climate Finance Experience

- ❑ **CP3:** Mobilizing equity capital at scale
- ❑ **Private Equity:** Clean energy - 10 funds, \$150m
- ❑ **India Solar Guarantee Facility:** \$150m guarantees; \$10m UK grant buys down fees, leverages commercial debt, builds bank capacity on solar
- ❑ **Thailand Solar PV output:** 1st large-scale PV farm, \$2m grant from ADB's Clean Energy funds finances contingencies; reduces project costs and debt servicing
- ❑ **Bangladesh Industrial Energy Efficiency:** \$30m credit line plus technical assistance to domestic private banks support introduction of energy saving technologies in the brick kiln and other targeted industries.

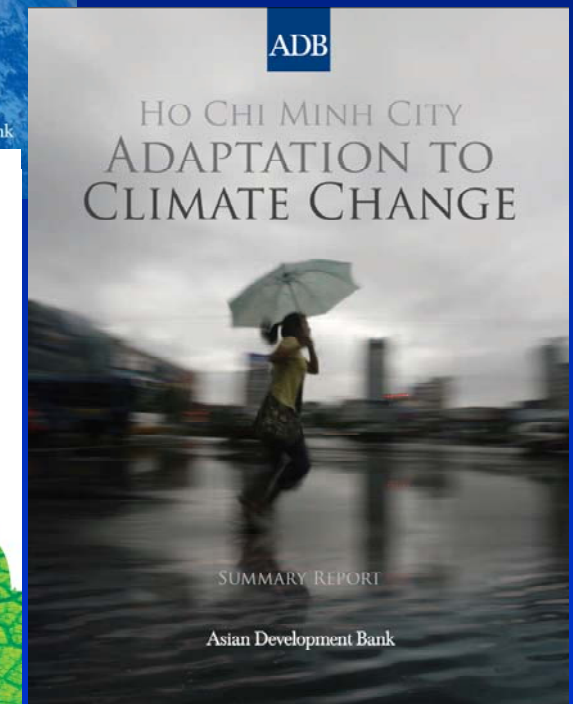
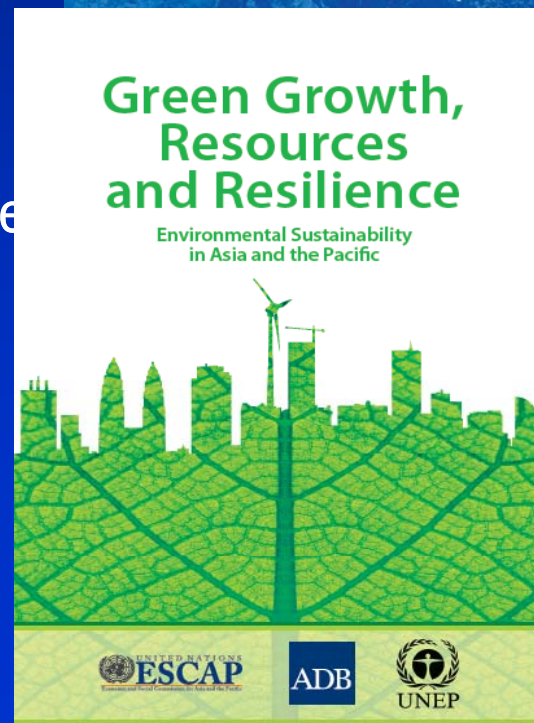
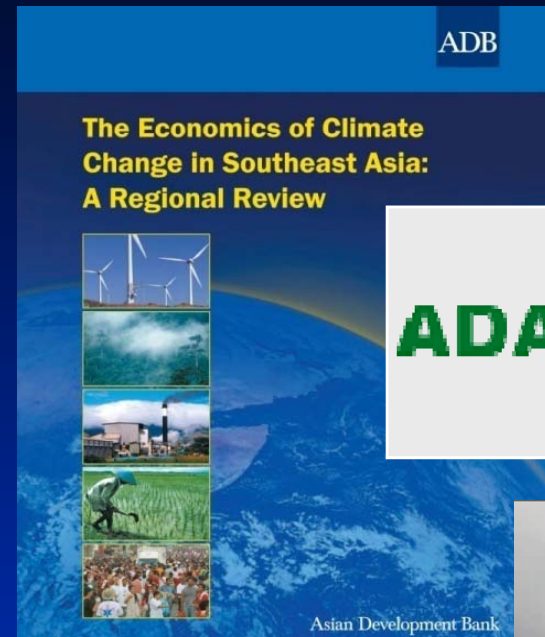
Knowledge and Partnerships

□ Knowledge and Outreach

- Climate Finance (with MDBs, others)
- Asia Pacific Adaptation Network (with UNEP, IGES, others)
- Asia Clean Energy Forum, Urban Forum, Transport Forum (with several partners)

□ Key Studies

- economics of climate change
- agriculture impacts
- energy
- migration
- climate impacts on coastal megacities (with WB, JICA)



Knowledge Sharing and Leadership: The Asia Leadership Program on Sustainable Development and Climate Change

- ❑ Objectives: To inspire leadership and empower participants – through regional experiences and skills and active learning focusing on change and transformation – to take actions to integrate sustainable development and climate change priorities in policies, strategies and programs. To explain the transition from “What” to “How” . To foster development of an influential “leaders’ community” in the Asia and Pacific Region

- ❑ Program: To be continued for at least 3 years.
1st Program in February 2013. 2nd Program in February 2014.

- ❑ Partnerships - Partnerships welcomed
 - The Energy and Resources Institute (TERI, Delhi, India), February 2013
 - Future partners include the Korea Development Institute School (KDI School) and the Asia Low Emission Development Strategies (Asia

February 2013 Program: 69 participants from 25 countries. Program included field trips to visit community programs (e.g., Sunderbans), discussions led by key politicians and practitioners, and group projects. ADB staff served as resource persons and coaches.



3 February 2013: Executive-Level Participants

Thank you